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10/820,701	04/09/2004	Tohru Kurata	251425US6	8739

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
VANCHY JR, MICHAEL J	

ART UNIT	PAPER NUMBER
2624	

NOTIFICATION DATE	DELIVERY MODE
01/29/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/820,701	KURATA, TOHRU	
	Examiner	Art Unit	
	Michael Vanchy Jr.	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed on November 19, 2007. Claims 1, 3, 4, and 6-8 have been amended and claim 9 has been added.

2. The objection made to claims 6 and 7 as being in improper form because of a multiple dependent claim has been resolved.

3. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hutchinson, 4,836,670.

Regarding claim 1 Hutchinson teaches: an image display device (Fig. 1, item "18"), comprising: image pick-up means for picking up an image (Fig. 2, item "41"); image display means for displaying an image (Fig. 1, item "18"); detection means for detecting a position of the eyes of a face relative to the image display means by image recognition from an image picked-up by said image pick-up means (Figs. 1, 2, and col. 4, lines 62-65); and display position alteration means for altering a position of a location of an image displayed by said image display means, based on the detection result of said detection means (Abstract, col. 5, lines 36-54).

Regarding claim 9 Hutchinson teaches: an image display device (Fig. 1, item "18"), comprising: an image sensor configured to capture images (Fig. 2, item "41"); an image display configured to display images (Fig. 1, item "18"); a detector configured to detect a position of the eyes of a face relative to the image display by image recognition from an image captured by said image sensor (Figs. 1, 2, and col. 4, lines 62-65); and a processor configured to alter a position of a location of an image displayed by the image display based on a detection result of said detector (Fig. 2, Abstract, and col. 5, lines 36-54).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 2, 3, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchinson, 4,836,670 and further in view of Harradine et al., 4,864,393.

Regarding claims 2 and 3 the applicant claims a digital interpolation filter for position alteration means. Using a digital interpolation filter for alleviating image blurring is notoriously well known in the art, however, Hutchinson is silent on using a digital interpolation filter for the display device disclosed. Harradine et al., teaches using a digital interpolation filter for televisions. It would be clear to one of ordinary skill in the art to modify the CRT screen in Hutchinson to include a digital interpolation filter, as used in Harradine, to alleviate image blurring on the screen.

Regarding claim 2, Harradine teaches: where a display position alteration means is a digital interpolation filter, which effects parallel movement in sub-pixel units of the display position of the image (col. 4, lines 23-32).

Regarding claim 3, Harradine teaches: the image display device according to claim 2, wherein said digital interpolation filter estimates the parallel movement amount of the image display position at a point of time in the future that is substantially equal to the delay time resulted from processing by the digital interpolation filter (col. 10, line 51 to col. 11, line 10, The examiner takes into account that the process doesn't specifically state "parallel movement" but can easily be accomplished by the stated invention.).

Regarding claim 8, see rejection made to claim 1 and Harradine col. 16, lines 44-49, as it addresses the rejection to the image display device for preventing blurring of this method.

7. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchinson, 4,836,670 and Harradine et al., 4,864,393, and further in view of Nasserbakht et al., 6,072,443.

Regarding claim 4, Hutchinson and Harradine et al., are silent on a distance measurement means and image enlargement and reduction based upon said distance measurement. However, Nasserbakht does:

Regarding claim 4, the image display device according to claim 2 or 3, further comprising: distance measurement means to measure the distance with an external object, wherein said digital interpolation filter also performs image enlargement and reduction processing based on the results of measurement of said distance measurement means (Fig.6 and col. 2 line 66 to col. 3 line 4).

Modifying Hutchinson and Harradine et al., to include a distance measurement and image enlargement/reduction capabilities increases the picture clarity. Therefore, it would be clear to one of ordinary skill in the art at the time of the invention to modify Hutchinson and Harradine et al., to include a distance measurement and image enlargement/reduction capabilities to increases the picture clarity.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchinson, 4,836,670, and further in view of Nasserbakht et al., 6,072,443.

Regarding claim 5 Nasserbakht teaches: the image display device according to claim 1, wherein said display position alteration means is a damping device which causes physical movement of said image display means (col. 6, lines 10-18).

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchinson, 4,836,670 and further in view of Mølgaard, US 6,747,690 B2.

Modifying Hutchinson, to include acceleration measurement would decrease the probability of a blurred image being displayed. Therefore, it would be clear to one of

ordinary skill in the art at the time of the invention to modify Hutchinson, to include an acceleration measurement to increase the clarity of the display and further limit blurring.

Regarding claim 6, the image display device according to claim 1, further comprising: acceleration measurement means for measuring the acceleration of said image display device unit, wherein said display position alteration means alters the position of image display by said image display means based on the detection results of said detection means and the measurement results of said acceleration measurement means (col. 3, lines 54-61).

Regarding claim 7, the examiner rejects claim 7 by taking official notice that using a CMOS sensor for image pick-up means is notoriously well known in the art, and would be obvious to incorporate into the prior art at the time of the invention.

Response to Arguments

10. Applicant's arguments with respect to claim 1-9 have been considered but are moot in view of the new ground(s) of rejection.

11. The Applicant's argument is that, based on amendment, none of the arts used teach "a detector configured to detect a position of the eyes of a face relative to the image display by image recognition from an image captured by said image sensor." Under new grounds of rejection based on amendment this argument is moot in point since Hutchinson teaches a detector that determines the “eye position” while allowing “free natural head motion” (col. 4, lines 62-65) through an image sensor “IR camera” (Fig. 2).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Vanchy Jr. whose telephone number is (571) 270-1193. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael J. Vanchy Jr.
Examiner
AU 2624
(571) 270-1193
Michael.Vanchy@uspto.gov

BRIAN WERNER
SUPERVISORY PATENT EXAMINER